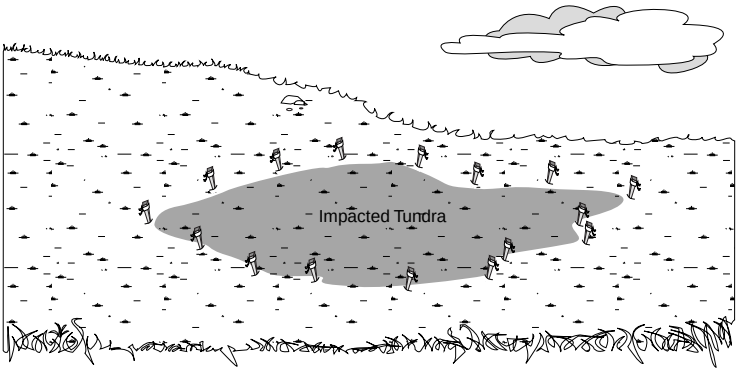

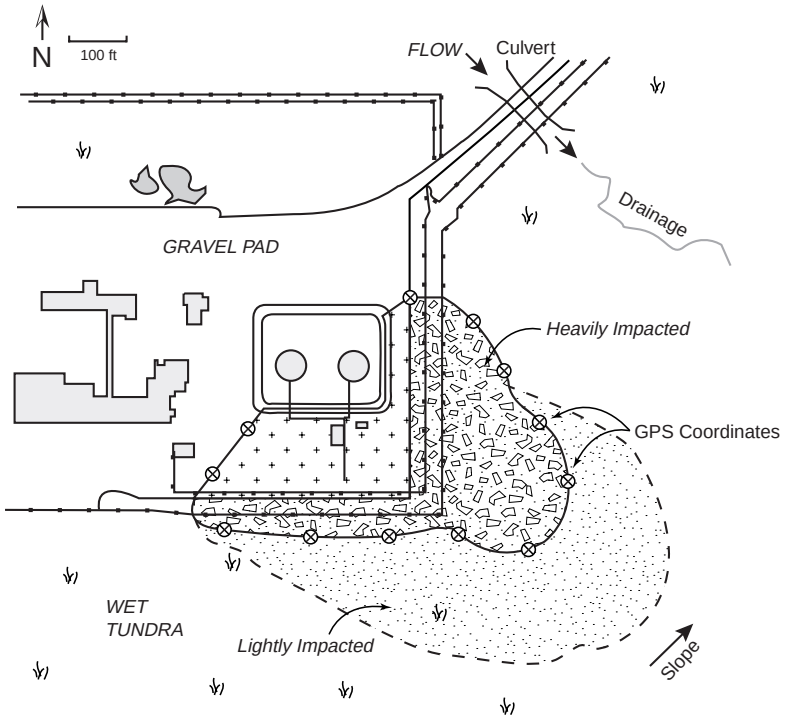

This tactic describes how to mark the spill area so that its boundaries can be located in case subsequent snowfall or windblown snow covers the tundra. This should be done as soon as possible after the spill. The extent of the spill may already have been marked during early response measures. Retrace the boundaries to confirm to earlier delineation.

To delineate large spill areas (>1,000 square feet), two workers walk the perimeter of the spill in opposite directions from a common point and meet on the opposite side of the spill area. The workers look for signs of the spilled substance on the ground, soil or plant discoloration, sheen on standing water or foliage, and dead or damaged vegetation, and place wood laths in the ground every 50 to 100 feet near the edge of the spill. The workers should then retrace each

other's routes to confirm the delineation. For smaller spills, one person may perform the delineation. If a hand-held global positioning system (GPS) is available, the GPS coordinates can be marked on the wooden laths and used to generate a scaled map of the site. Aerial photographs may be invaluable for identifying and mapping site features and spill boundaries

A scaled map of the site may be required for planning, monitoring, and reporting purposes. A site map should show the following elements (at a minimum):

- Location of the spill source
- Boundary of the spill-affected area
- Areas of light and heavy concentrations
- Adjacent roads and structures
- Sensitive areas
- Nearby drainages or waterbodies and direction of water movement
- Slope and distinctive topographical features
- Sampling locations (including background samples) — use insets as necessary
- Vegetation study plots, transects, or photoplot locations — use insets as necessary
- North arrow and scale

APPLICABILITY

	APPLICABILITY	COMMENTS
SPILLED SUBSTANCE	Crude oil, fuels, glycol, methanol, Therminol	• Spills of saline or water-soluble substances in wet or moist tundra are difficult to delineate using visual indicators.
TUNDRA TYPE	All	• Spilled substances may be carried by water and spread from the initial spill area in moist and wet tundra. • Spilled substances may flow or be carried by rain or melt water vertically into dry tundra soil, and may not spread horizontally as much as in wet or moist tundra.
SEASON	All	• Delineate the spill area as soon as possible in case subsequent snowfall covers the tundra.

CONSIDERATIONS AND LIMITATIONS

- The area of an uncontained spill of a saline substance will expand with time on all types of tundra as the spill dilutes and spreads.
- The boundaries of spills of saline or water-soluble substances on wet or moist tundra are difficult to delineate visually. These spills tend to dilute and spread rapidly. If salt or other water-soluble compounds are present in high enough concentrations, the vegetation will die or show signs of stress (wilting, discoloration, loss of foliage) in affected areas.
- This tactic has been adapted from Tactics T-1 and T-2 in the *Alaska Clean Seas Technical Manual* (Alaska Clean Seas, 1999, Vol. 1).

EQUIPMENT, MATERIALS, AND PERSONNEL

- Wooden lath stakes (1 or 2 workers) – to mark spill perimeter at 50- to 100-foot intervals
- GPS unit (1 operator) – to provide coordinates for site mapping